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Developing Processing Techniques for Skylab Data
Monthly Progress Report, June 1974

EREP Investigation 456 M
NASA Contract NAS9-13280

Prepared by

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
LYNDON B. JOHNSON SPACE CENTER
HOUSTON, TEXAS 77058

JUN 24 1974

REPLY TO ATTN OF: BC241-74/L140-A82

Environmental Research Institute
of Michigan
Attn: Mr. Howard W. Courtney
Post Office Box 618
Ann Arbor, MI 48107

Subject: Contract NAS 9-13386, Data Dissemination

The S-192 data over two test sites utilized in the Multispectral Scanner Data Applications Evaluation portion of Contract NAS 9-13386 (CCA Number 2) can also be effectively used by certain Skylab Principal Investigators. You are hereby requested to furnish S-192 data to the following Principal Investigators:

North Dakota Test Site

Mr. Harvey K. Nelson
Contract T-4114B
Bureau of Sports Fisheries & Wildlife
U.S. Department of Interior
Jamestown, North Dakota

Michigan Test Site

Dr. Lester V. Manderschied
Contract NAS 9-13332
Michigan State University
East Lansing, Michigan

Mr. Richard Nalepka
Contract NAS 9-13280
Environmental Research Institute
of Michigan
Ann Arbor, Michigan 48107

RECEIVED
JUN 27 1974
CUSTOMER RELATIONS

It is our expectation that the furnishing of data to the above Principal Investigators will have no cost impact on the subject contract.

Tony C. Riggan
Contracting Officer
Experiments Procurement Section

Developing Processing Techniques for Skylab Data
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The following report serves as the sixteenth monthly progress report for EREP Investigation 456 M which is entitled "Developing Processing Techniques for Skylab Data". The financial report for this contract (NAS9-13280) is being submitted under separate cover.

The purpose of this investigation is to test information extraction techniques for SKYLAB S-192 data and compare with results obtained in applying these techniques to ERTS and aircraft scanner data.

Late last month we finally received approval for the release of the S-192 data which had earlier been made available to ERIM for its EOS System Study. (A copy of the letter of approval is attached). As a result of the letter, efforts were undertaken to begin the processing of S-192 data.

As a part of this effort a section of S-192 data (excluding clouds) covering the southern Michigan test site was previewed to determine the signal range within each spectral channel. For all spectral channels, the range of integer values in the data was significantly less than the total range possible. Table 1 provides a summary of signal range by spectral channel. The upper and lower integer values defining the signal range in each channel had at least 5 pixels at that integer - thus, some occasional pixels had integer values outside the range indicated.

In the coming months we plan to continue processing the S-192 data from this test site (703532). Since this test site is satisfying

the needs of Dr. L. Manderschied on Contract NAS9-13332 and Mr. F. Thomson on Contract NAS9-13272 as well as this contract, the initial data preparation will be coordinated to satisfy all interested parties and the costs associated with this preparation will be shared.

Submitted by: Richard F. Nalepka
Richard F. Nalepka
Principal Investigator

Approved by: Jon D. Erickson
Jon D. Erickson
Head, Information Systems
and Analysis Department

Approved by: A S Lowe for R R Legault
Richard R. Legault
Director
Infrared & Optics Division

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TABLE 1. S-192 signal range by spectral channel for the southern Michigan data collected 5 Aug. 73 (NSA=1250, 2000, 2, 1, 1032, 2).

Spectral range (um.)	Tape Chan./SDO	Signal Range (Integer values)	No. pixels of zero value	No. pixels at max. (255)
.41-.46	20/22	92-144	216	0
.46-.51	16/18	86-146	216	0
.52-.56	1/1	50-89	106	0
.52-.56	2/2	50-86	0	0
.56-.61	3/3	35-78	106	0
.56-.61	4/4	35-80	0	0
.62-.67	5/5	27-71	106	0
.62-.67	6/6	27-68	0	0
.68-.76	7/7	48-128	106	0
.68-.76	8/8	46-132	0	0
.78-.88	9/9	41-103	106	0
.78-.88	10/10	41-103	0	0
.98-1.03	17/19	30-125	216	0
1.09-1.19	18/20	39-130	216	0
1.20-1.30	15/17	38-156	216	54
1.55-1.75	11/11	43-103	106	0
1.55-1.75	12/12	43-100	0	0
2.10-2.35	13/13	0-51	1974	83
2.10-2.35	14/14	0-50	1824	112
10 2 -12.5	19/21	61-159	216	0